

REMARKS

Applicants have considered the outstanding official action. It is respectfully submitted that the claims are directed to patentable subject matter as set forth below.

The sole outstanding rejection is of claims 1-25 under 35 U.S.C. §102(b) over U.S. Patent No. 5,000,729 (Yamauchi).

The sole remaining independent claim is claim 1. Claims 3, 22, 24 and 25 have been canceled. New claims 41 and 42, which are directly dependent on claim 1, have been added. Claim 1 has been amended. The claims dependent thereon have been amended to conform to the language of amended claim 1.

Claim 1 is amended and claim 41 added to emphasize the two opposing counter-rotating folding rollers forming a folding nip and the relative relationship of the respective mechanical gripping members and gaseous flow members thereto and to each other as to folding a continuous web material.

Further, new claim 42 is directed to the embodiment shown in Figures 15A-15B and 16A-16C. In that embodiment, each folding roller 1, 3 has at least one gripping member and a projection 201, 201A. The gripping members and projections of the two counter-rotating folding

rollers are synchronized such that a gripping member of one roller enters in the nip 5 between the two folding rollers in synchronism with a projection of the opposing roller. The radial dimension of the projections 201, 201A and/or the synchronization between the angular positions of the two rollers and the movement of the strip 61 are such that the gripping member does not grasp the projection, i.e., the two members do not mechanically co-act. (See page 13, lines 6-26, of the specification.) The projection 201 has the sole function of generating a small fold in the web such that the web is more easily sucked into the gripping member by the suction effect of the gaseous flow member combined with the gripping member. The slightly projecting fold formed in the web by the projection acts as an "invitation" to suck the web into the gripping member. The provision of the projection 201, 201A renders the machine much faster and reliable. Even if the folding rollers rotate at high speed, the suction effect of the gaseous flow members combined with the gripping members is sufficient to promptly grasp and detach the web from the opposing roller, due to the very small fold formed therein. The lack of mechanical contact or co-action between the projection 201, 201A and the gripping member renders the machine significantly less prone to wearing, malfunctioning and reduces noise and vibrations.

With respect to the §102 rejection, the sole applied reference Yamauchi teaches gripping members 11, 12 which are synchronized with opposing blades 13. However, blades 13 and the gripping means 12 are arranged differently, co-act differently and have different functions as compared to applicants' claimed apparatus. In Yamauchi, the blades 13 have the function of cutting the web upstream of the nip between the rollers. Since the web is cut (for example, by the co-action of blade 13' and counter-blade 35' as shown in Fig. 2 for right hand roller 8'), the blades 13' must be provided with a suction hole 19' to ensure that the trailing edge of the web is retained on the blade and introduced into the gripping member 12. The members 12', 13 co-act mechanically in that the member 12' pinches the blade 13 while the tip of the blade is inside the gripping member. Accordingly, as shown in Fig. 8, in the folding nip between the two folding rollers 8, 8', the blade 13 co-acts mechanically with the swing gripper 12'. Note that at column 7, lines 20-25, Yamauchi clearly teaches the engagement of the swing gripper 12' and the thrusting and cutting blade 13.

Applicants' claimed machine, to the contrary is arranged so that no mechanical element engages strip 61, even in the embodiment of claim 42 wherein the projection 201, 201A does not engage with the strip 61.

Additionally, Yamauchi also teaches introducing the bag material which is being processed into the recess 10 and holding it therein by vacuum. However, the insertion of the bag material is performed by a respective thrust blade 9, 9' of an auxiliary thrust roller 7, 7' positioned away from the folding nip between rollers 8, 8' (see Figure 2 and column 7, first paragraph). Therefore, it is not correct that Yamauchi teaches sucking the web into the gripping member without the use of a blade. The opposite is true. Yamauchi specifically teaches that a blade is always used to co-act with the swing gripper and the recess 10, 10' wherein the gripper is housed. With an intermediate folding line of a bag, the bag is introduced into the recess 10, 10' by the blade 9, 9' and, only after this, is the bag retained therein by suction. In the case of leading and trailing edges of two subsequent bags, such are introduced into the recess 10, 10' by blade 13, 13' and the latter co-acts with the swing gripper 12, 12'.

A further distinction between the apparatus of Yamauchi and the claimed machine is evident by what happens in the folding nip between the folding rollers 1, 3 of the application and the folding rollers 8, 8' of Yamauchi due to the machine's features and their arrangement. Applicants claim a machine having two folding rollers and a folding nip therebetween for processing a continuous web entering the

nip. Yamauchi describes a machine requiring four rollers, i.e., 7, 7', 8 and 8' arranged to have mechanically coacting features which act on the web in combination with suction. Applicants' claimed machine processes a continuous web which is fed into a nip between two folding rollers and exits the nip in a folded zig-zag condition but still in a continuous form. Yamauchi discloses an interfolding machine, i.e., a machine which is fed with a continuous web, but wherein the web is cut upstream of the folding nip and prior to entering the folding nip between the rollers. A trailing edge of one web portion is inserted between two opposing portions of a subsequent web portion (see the sequence shown in Figs. 11A-11F and Fig. 13 of Yamauchi).

Claim 1 has been amended to include the limitation of a folding machine having two counter-rotating folding rollers, a nip therebetween and a continuous web fed to the nip. The overall structure of the machine is also distinguished over Yamauchi by the arrangement of the gaseous flow members, as well as the action thereof provided on the continuous web due to such arrangement.

New claim 41, depending upon amended claim 1, more clearly defines how the flow of gas acts on the continuous web to attract the web from the opposing folding roller. These features are not disclosed by Yamauchi. In rejecting the claims, the Examiner essentially refers to the suction

on the web material as it is folded between blade 9 and recess 10, i.e., outside the folding nip between rollers 8, 8'. Claim 41 more specifically distinguishes the claimed subject matter in that regard.

New claim 42 is directed to the embodiment of Figs. 15-16. Claim 42 clearly defines the projection and the gripping member where such co-act without mechanical cooperation between the movable element 61 and the projection 201. As described in Yamauchi, there are two positions where the web is acted upon to enter the recess 10, 10', i.e., first at the side of the folding roller where the thrusting blade 9, 9' is used (which does not anticipate claim 42 since claim 42 clearly defines that the projection and the gripping member co-act in the folding nip) and, secondly, in the folding nip, where the gripper 12, 12' co-acts with the blade 13, 13' which as very clearly stated at column 7, lines 20-25, as requiring that the gripper 12, 12' engages the blade 13, 13' which is different from the structure claimed in claim 42.

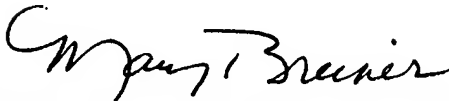
Accordingly, applicants submit that Yamauchi does not teach each and every element of the claims and, thus, does not anticipate the claims within the meaning of 35 U.S.C. §102. Withdrawal of the §102 rejection is requested.

Reconsideration and allowance of the application are respectfully urged.

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